

### REMARKS

Present Claims 1-11 stand rejected as anticipated or obvious in view of what the Office asserts is Applicants' admission of prior art. The Office asserts the following in the last paragraph on page 2 of the December 6, 2006 Office Action:

Applicants admit that Johann Stichlmair in Grundlagen der Dimensionierung des Gas/Flüssigkeit-Kontaktapparates, Bodenkolonnen, Verlag Chemie, Weinheim, 1978, suggests or teaches the separating action of sieve trays with entrainment fractions of up to 30% by weight. See page 7, lines 17-21.

Applicants submit that the Office's characterization of the disclosure of the present specification is not correct. The disclosure of the present specification cited by the Office is reproduced below for convenience (underlining added):

What is surprising about the invention is that, in contradiction to the current teaching (for example Johann Stichlmair in Grundlagen der Dimensionierung des Gas-/Flüssigkeit-Kontaktapparates, Bodenkolonnen, Verlag Chemie, Weinheim, 1978, p. 131), the separating action of sieve trays is reduced hardly perceptibly even in the case of entrainment fractions of up to 30% by weight.

The specification does not disclose that Stichlmair describes a thermal separating process that is carried out to provide an entrainment fraction of up to 30% by weight. Instead, the above-quoted disclosure of the present application states that contrary to the disclosure of Stichlmair, one embodiment of the invention of the present application is carried out with entrainment fractions of up to 30% by weight with a hardly perceptible reduction in the separation action of the sieve trays. Applicants submit that the words "in contradiction to the current teaching" in the above-quoted disclosure of the present application make it explicitly clear that Applicants are not admitting that Stichlmair discloses a separation process carried out with an entrainment fraction of up to 30% by weight.

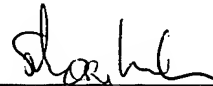
Applicants submit herewith a translation of page 131 of Stichlmair. Applicants draw the Office's attention to the fact that Stichlmair does not mention or suggest a thermal separating process for (meth)acrylic monomers.

Applicants submit that the English translation of Stichlmair and Applicants' remarks above are sufficient to demonstrate that the Office's assertion of admitted prior art is not supportable.

Applicants request withdrawal of the rejection.

Respectfully submitted,

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Johann Stichlmair

# **Fundamentals of dimensioning of the gas/ liquid contact apparatus**

**Plate column**



Verlag Chemie - Weinheim - New York - 1978

### 3.312 FURTHER INFLUENCING VARIABLES OF THE PLATE EFFICIENCY

The efficiency of a real plate mounted in a column is also affected by a number of further influencing variables, such as entrainment of liquid, raining-through of liquid and maldistribution.

Because of entrainment of liquid by the gas, the counterflow of gas and liquid is impaired. This results in back-mixing of the liquid over the height of the column, in turn reducing the driving concentration gradient and thus the mass transfer between the phases. Colburn /3.109/ has undertaken fundamental investigations in this area. He derived the following relationship [Translator's note - not entirely legible]:

$$E_{OGM} = \frac{E_{OGM}}{1 + \frac{E}{L} \cdot E_{OGM}} \quad (3.114)$$

This equation represents a simplified form of the exact solution. It is valid for small values of the slope of the equilibrium curve divided by the slope of the working line  $m/(L_M/G_M)$ . As long as no more than 10% of the entire liquid fed to the plate is entrained by the gas, the impairment of separating efficiency is negligible.

Raining-through of liquid does not impair the counterflow of the two phases. If the liquid is completely mixed on the plate, it does not matter at all how the liquid reaches the plate underneath. In this case the separating efficiency of a column plate is substantially impaired only if so much liquid rains through that the height of the two-phase layer on the plate is reduced (see Section 2.2).